Clippings, From August 31, 1880, to September 1, 1880

Volta Prize Daily Evening Traveller.

WEDNESDAY, SEPTEMBER 1, 1880.

HONORS TO PROFESSOR BELL.

Professor Bell's receipt of a letter from the Secretary of the French Academy, announcing the award of the Volta prize of the French Academy for his discovery of the telephone, which is first made known to the American public in another column of the *Traveller* , will be recognized here as a deserved honor, and will tend to elevate still higher the position of American scientists in the civilized world. The rival claims as to priority of invention may now be regarded as disposed of once for all, and Prof. Bell, in this world-wide recognition of his discovery, will find the hearty congratulations of his countrymen not the least pleasing phase of his now established fame.

MORNING NEWS.

LOCAL AND SUBURBAN.

POPULAR SCIENCE.

The Volta Prize of the French Academy Awarded to Prof. Alexander Graham Bell.

The Telephone Pronounced the Greatest Electrical Discovery for Fifteen Years.

A Talk with Dr. J. M. Sternberg, U. S. A.

Professor Alexander Graham Bell received yesterday in an official letter from the French Commissioners of the Academy a notification that the Volta Prize of the French Academy

had been awarded to him for having made the finest electrical discovery that has been made for fifteen years. This discovery is the telephone. The Volta prize is 50,000 francs or $10,000.

The official letter is in French, of which the following is a translation:

Paris , July 28, 1880.

Monsieur,—I have the honor to communicate to you that the Commissioners of the Volta Prize have decreed to you this prize of 50,000 francs, destined for the inventor of the best application of electricity. This decision, however, has been taken only after a profound examination of numerous and important labors, which have been submitted to the commissioners. These circumstances may be a recompense. I have the honor, Monsieur, of congratulating you in my own name as well as in that of the commissioners on a success that has so fully justified your researches and acquired for you a title particularly brilliant in the scientific world; and also by its practical results, which will be, I am persuaded, as useful as fertile.

Accept, Monsieur, the assurances of my distinguished consideration.

(Signed)

The Minister of Postal Telegraph, charged, per interim, from the Minister of Public Instruction and Fine Arts, Totammey .

“Ye', I prize this,” said Prof. Bell in answer to a question, “principally because it settles before all the world the question cast on the real inventor of the telephone.”

WILL SAIL FOR EUROPE.

“I shall go out to Europe now. I think that will be the most fitting way to acknowledge the honor, to go in person to receive it. And Mrs. Bell and myself will sail in a few days.”

“Will you be long absent, Professor?”

“Only as brief a time as possible, now. I have accepted a lectureship in the Johns Hopkins University, Baltimore, and I shall devote myself to scientific investigation.”

“What led you first to the conception of the telephone, Prof. Bell?”

“I think it was Helmoltz's vowel sounds-artificially produced that first gave me the idea of utilizing the galvinometer, and it occurred to me that the telephone, from its extreme sensitiveness to electrical influences, might be of value.

”During a visit to England during 1877–78? located in London and experimented in my private laboratory on the successful conditions of the telephone. I always believed in a practical future for the telephone. But while I was experimenting on it some gentlemen who were paying the expenses of the experiments said to me, “Mr. Bell, this is a very pretty scientific toy, but of no value practically. We wish you would not waste too time on it.”

“This is now precisely as I regard the photophone—as a pretty scientific toy. As yet, it no more.”

“Does every ray of light have its corresponding sound, Prof. Bell?”

“By no means. A beam of light has no sound only as we produce light on a substance sensitive in a way to emit certain sounds. This property is luberent in many substances. We found it in gold, silver, platinum, steel, brass, copper, zinc, lead, antimony, German silver, Rabbit's metal, mica, silvered glass,—in fact, in all enumerated in my lecture. In that I stated that we did not find it in carbon and in thin microscopic glass. Since then we have discovered it to be a property of microscopic glass, and it now only remains to be determined if is not a general property of all matter.

“Now when we can control the form of the light vibration we control the quality of sound and thus obtain articulate speech.”

THE PHOTOPHONE.

“Professor Bell, what do you believe will be the future of the photophone?” “It is too soon to speak of that yet,” he replied, “but I look for its future in a practical use among navigators. For communication of ships at sea; for communication between a lighthouse and a ship, or between a ship that is being wrecked and the people on shore. I also look for it as a means of transmitting messages in times of war, when telegraph lines are down and the country is desolated, and where other electric forms would fall. I have long felt a confidence,” continued Professor Bell, “In the possibility of producing sound by interrupting the action of light upon silenium, and I announced this possibility in a lecture delivered before the Royal Institute of Great Britain in May, 1878. Just after this I heard the announcement by Mr. Willoughby Smith, before the Society of Telegraphic Engineers, that he had heard the action of a ray of light falling upon a bar of crystal selenium, by listening to a telephone in circuit with it.”

“In your lecture, Professor Bell, you spoke of experiments with the photophone and of hearing speech at a distance of 213 metres. Just how far was that, please?”

The Professor smiled blandly at this very un-scienti?? question and replied gently, “A metre is 39 inches.”

The interrogator proceeded at once with a rapid mental calculation, and arrived at the conclusion that 213 metres approximated to 113 feet.

“We were out here all this afternoon [this interview took place last night] experimenting with the photophone,” continued Professor Bell, “the apparatus being on this house [where

the Association is held] and the Institute of Technology. We could not hear the natural at all through the air."

"Were the experiments satisfactory, Professor?"

"They gave the greatest satisfaction to the scientific men who are here. The conditions were good and the result was successful.

"The articulate sounds were distinct," continued the Professor, "to those familiar with the articulation of the telephone. Of course a little practice is necessary for that. But those who readily understand telephonic tone as readily understand the articulation of the photophone."

THE INVENTOR OF THE PHOTOPHONE, which is undoubtedly to be the next great invention of the age, is a man, young, alert, and of the most genial and fine presence. A man delicately organized, yet strong and true to an ideal law. Tall, yet so finely proportioned as to leave no impression but a most harmonious one; black, shining hair, just inclined to be wavy; whiskers and moustache of that beautiful, shining black, and eyes that match it to a shade. In manner Professor Bell has that exquisite courtesy rarely seen, and when met it seems a thing to be felt rather than described,—the gentle, courtly grace of manner, the manner fitted to command princes and palaces. America has reason to be very proud of her adopted citizen, Professor Bell. A chiranamist would look with interest at the bands of the great scientist. They are symmetrical and well balanced; the palm full, inclined to be thick, indicating a command of material forces. The fingers are almost the ideal type of the artistic fingers, long, tapering, intuitional, psychial fingers. It is the band of inspiration of fine insight of strength, and of creative power.

Professor Bell was born in Scotland and educated at the ROYAL ACADEMY in Edinburgh. It was only about 1870 that he came to Canada. A year later to the States, and in 1872 settled in Boston, where he has occupied a chair in the Boston University. The Association

of the Advancement of Science will ever hold memorable the session of 1880 as marked by the first exhibition of the powers of the new invention of the photophone

PUCK.

EVENING TRANSCRIPT

TUESDAY, AUGUST 31, 1880.

SCIENCE VS. THE PUBLIC SCHOOLS.

The American Association is daily proving its practical importance as a congress of scientific workers. No just comprehension of the riches of new knowledge and fruits of reflection poured forth in the papers read by distinguished members of the Association can be obtained at present, owing to the very profusion in which they come, and the solid value that characterizes them. Only when they take their place in the printed proceedings can the great additions made to the stock of the century's science and material for study be fully estimated. Such a discovery, for example, as that announced, without any flourish of trumpets, by Professor Graham Bell last week, of the proved possibility of working the telephone with a ray of sunlight, or even with the beams of a kerosene lamp, doing away with wires and batteries,—such studies as those of Major Powell and Colonel Carrington upon the social and governmental organization and religion of the aborigines, open up lines of work and thought intimately interwoven with all the practical business and practical politics of the day. The elaborate discussion of the manner of teaching science in the public schools, presented yesterday by a special committee of able and distinguished men, goes to the very bottom of the question of the availability of schools as a resource for democratic intellectual cultivation and progress in civilization in this country.

The public-school system has grown to an immense machine for good or ill in the Republic. It comprises a hundred and fifty thousand schools, supported at an expense of seventy or eighty million dollars, and is maintained by State authority. The question

to which the committee devote themselves is, How science is dealt with in this great institution which has undertaken the task of moulding the youthful mind of the country? The committee answer that science as taught in the public schools falls below other studies as a means of mental cultivation. Pupils are made to learn the facts and principles of science by memory from books, just as they learn the facts of history and geography. Arithmetic, on the other hand, exacts mental exertion, and the study of languages also demands the exercise of mental processes in the analysis and construction of sentences. Science, would be inferior to none, if taught rightly, if the scientific method were followed in it. The method of science is simply systematic exercise in truth-seeking, beginning with doubting accepted facts and questioning current theories; making one's own observations, asserting one's mental independence, and taking the most vigilant and disciplined precautions against error. The whole body of modern scientific truth is the monument and witness of the soundness of this scientific method. But the scientific method is not pursued in the teaching of science in the public schools. The pupil is called on to accept all he learns at second hand, on authority, out of books, and such science-teaching, the committee say, is “a deception, a fraud, an outrage upon the minds of the young, and an imposture in education.”

The “object-teaching” which has been introduced to meet this objection to mere book-science is condemned by this committee as a failure, and a false and delusive remedy —“in no true sense a first step in science.” The pupil should not have the properties of objects pointed out; he should find them out. Object-lessons afford no cultivation of nice, obscure distinctions. The committee do not say they are useless, but they do deny that they are even the A B C of science. As for the oral teaching with which it has lately been attempted to supplant book science, these severe critics question if that is not worse than the object lesson. It is only a superficial activity, and the teacher having to do everything is called on to stand in the place, not only of the book, but of the pupil himself. “Where it is all talk and no work, and text books are filtered through the very imperfect medium of the

ordinary teacher's mind, every sound principle of education is outraged and science is only made ridiculous."

What, then, within the possibilities of the public-school system, have the committee to suggest? Nothing. They denounce in unmeasured terms the present modes, but they offer nothing to take their place. They go further, and intimate that no true scientific cultivation can be possible under the present public-school system, and as scientific cultivation is what has given the world all it has of truth, the public-school system is a failure. "The working of children in lots" is what they call it. They admit that it is fitted to impress the public that much is being done, but "in the graded schools just in proportion to the perfection of the mechanical arrangements, individuality disappears; and with individuality goes originality." The public-school system of teaching is at war with the scientific method, the very essence of which is the exercise of original mental power. "A system which deals with the average mind and does not get at the individual mind must break down at the point where all true education really begins; that is, in promoting self-culture." Must we then abandon this great public education machine of one hundred and fifty thousand schools supported at a yearly cost of eighty millions? "When our system of education shall have been remodelled from top to bottom," the scientists say, quoting the words of President Barnard of Columbia College, they will recommend the teaching of science in them. At present "we would not raise a finger to extend it." It has been noticed that the original minds and the masters of thought have chiefly come out of small towns where school resources were scanty;—"which means," say the committee, "that the schools were not so perfect as to kill out all originality." This report is signed by E. E. Youmans, A. R. Grate, J. W. Powell and J. S. Newberry.